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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,384	10/09/2003	Takashi Kamijo	032009	6397

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EXAMINER

MCNAULL, ALINE D

ART UNIT PAPER NUMBER

2872

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/681,384	<b>Applicant(s)</b> KAMIJO ET AL.	
	<b>Examiner</b> Aline D. McNaul	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/1/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

- This office Action is in response to an amendment filed on 5/01/2006.
- Claims 1-17 are pending in this application.

#### ***Response to Amendment***

Amendments filed on 5/01/2006 are acknowledged and accepted.

#### ***Terminal Disclaimer***

The terminal disclaimer filed on 5/01/2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 10/871,003 has been reviewed and is accepted. The terminal disclaimer has been recorded.

In view of the terminal disclaimer filed 5/1/2006, the double patenting rejections in Section 3 of the Office Action dated 2/1/06 are respectfully withdrawn.

#### ***Specification***

The abstract of the disclosure is objected to because of the following:

- a) "provide" in line 6 should be --provides--
- b) "And" in line 6 should be omitted and "the polarizer" should be --The polarizer--
- c) "have" in line 7 should be --has--
- d) "being" in line 8 should be --is--.

Correction is required. See MPEP § 608.01(b).

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities:

Examiner has noticed that the first and last few lines of many of the pages of the specification are missing letters within words, usually those letters are vowels. For example see line 25 of page 4 of the specification. Examiner therefore objects to the specification. Applicant's cooperation is requested in correcting these errors as well as any others found in the lengthy specification.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7-9, and 11-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Taguchi et al., US 2002/0084447 A1 herein after Taguchi.

With regards to Claim 1, Taguchi teaches a polarizer comprising a monolayer film (see paragraph 35 of the specification) having a structure having a minute domain (see paragraphs 35, 132-135 and 138 of the specification wherein an area comprising an aggregate is a minute domain) dispersed in a matrix (see paragraphs 148-152 of the specification wherein the binder polymer is a matrix) formed of a translucent water-soluble resin (see paragraph 152 of the specification wherein a polymer is a resin) including an iodine light absorbing material (see paragraph 43 of the specification).

With regards to Claim 2, Taguchi teaches a polarizer wherein the minute domain is formed of an oriented birefringent material (see paragraph 35 of the specification).

With regards to Claim 3, Taguchi teaches a polarizer wherein the birefringent material shows liquid crystalline properties at least in orientation processing step (see paragraph 133 wherein the aggregates show liquid crystalline properties in the lyotropic liquid crystal phase).

With regards to Claim 7, Taguchi teaches a polarizer wherein the film is manufactured by stretching (Examiner notes that this limitation is a product-by-process limitation and has not been given significant patentable weight, see MPEP 2113).

With regards to Claim 8, Taguchi teaches a polarizer wherein the minute domain has a length of 0.05 through 500  $\mu\text{m}$  in a direction perpendicular to the direction of an axis showing a maximum refractive index difference between the birefringent material forming the minute domain and the translucent water-soluble resin (see paragraphs 135 and 139 in the specification).

With regards to Claim 9, Taguchi teaches a polarizer wherein the iodine light absorbing material has an absorbing band at least in a band of 400 through 700 nm wavelength range (see paragraphs 128 and 129 of the specification and table 2).

With regards to Claim 11, Taguchi teaches a polarizing plate having a transparent protective layer formed at least on one side of the polarizer (see paragraphs 163-166 of the specification).

With regards to Claim 12, Taguchi teaches an optical film having at least one of the polarizer or the polarizing plate (see paragraphs 167-173 of the specification).

With regards to Claim 13, Taguchi teaches an image display comprising at least one of the polarizer or the polarizing plate (see paragraphs 168-171 of the specification).

With regards to Claim 14, Taguchi teaches an image display comprising an optical film (see paragraphs 167-173 of the specification).

With regards to Claim 15, Taguchi teaches a polarizer wherein the minute domains are dispersed throughout the matrix (see paragraph 138 of the specification).

With regards to Claim 16, Taguchi teaches a polarizer wherein the iodine light absorbing material is dispersed throughout the matrix (see paragraphs 43 and 132-135 of the specification).

With regards to claim 17, Taguchi teaches a polarizer wherein the minute domains and the iodine light absorbing material are dispersed throughout the matrix (see paragraphs 43 and 132-135 of the specification).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi in view of Ito et al., International Patent Publication WO01/55753 A, herein after Ito.

Regarding Claim 4, Taguchi teaches the polarizer as set forth above.

Taguchi lacks teaching the specifics regarding the birefringence of the minute domain.

Ito discloses a polarizer wherein the minute domain has 0.02 or more of birefringence (see page 12, line 26-page 13, line 4 and page 13, lines 21-29, for translation see US Patent Publication 2003/0137633 page 5 paragraphs 73, 78 and 115).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to have the minute domain of Taguchi with the property of 0.02 or more of birefringence because large birefringence can allow even and large scattering in a large area of the light scattering polarizing element, while additionally maximizing the polarization properties of the optical film.

Regarding Claim 5, Taguchi teaches the polarizer as set forth above.

Taguchi lacks teaching the specifics regarding the refractive index difference between the birefringent material forming the minute domain and the translucent water-soluble resin in each optical axis direction.

Ito discloses a polarizer wherein in a refractive index difference between the birefringent material forming the minute domain and the translucent water soluble resin in each optical axis direction, a refractive index difference ( $\Delta n^1$ ) in direction of axis showing a maximum is 0.03 or more, and a refractive index difference ( $\Delta n^2$ ) between the  $\Delta n^1$  direction is 50% or less of the  $\Delta n^1$  (see table 2).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to disclose a difference in refractive index between the birefringent material forming the minute domain and the translucent water-soluble resin in each optical axis direction because that would maximize the polarization properties of the optical film.

Regarding Claim 6, Taguchi teaches the polarizer as set forth above.

Taguchi lacks teaching the specifics of the orientation of the absorption axis of the iodine light absorbing material.

Ito discloses a polarizer wherein an absorption axis of the iodine light absorbing material is oriented in a direction of an axis showing a maximum refractive index difference between the birefringent material forming the minute domain and the translucent water-soluble resin (see page 12, line 26-page 13, line 10, for translation see US Patent Publication 2003/0137633 page 5, paragraphs 73-74 and 78).



It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to disclose a polarizer wherein an absorption axis of the iodine light absorbing material is oriented in a direction of an axis showing a maximum refractive index difference between the birefringent material forming the minute domain and the translucent water-soluble resin because that would maximize the polarization properties of the optical film.

Regarding Claim 10, Taguchi teaches the polarizer as set forth above.

Taguchi further discloses a polarizer wherein a transmittance to a linearly polarized light in a transmission direction is 80% or more (see paragraph 144 of the specification).

Taguchi lacks teaching the specifics regarding a haze value.

Ito discloses a polarizing film with minute domains, wherein a transmittance to a linearly polarized light in a transmission direction is 80% or more, a haze value of 5.3% and a haze value to a linearly polarized light in an absorption direction that is 30% or more (see Table 3).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to make the haze values suggested by Ito to prevent unwanted light scattering and thereby enhance the imaging of the polarizer.

Taguchi in view of Ito disclose the claimed invention except for the haze value in a transmission direction being 5% or less. It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to make the haze value of 5% or less, since it has been held that discovering an optimum value of a result

effective variable involves only routine skill in the art. One would have been further motivated to make the haze value 5% or less for the purpose of providing a clearer image. *In re Antonie*, 559 F 2d 618, 195 USPQ 6 (CCPA 1977) see also *In re Boesch*, 617 F 2d 272, 205 USPQ 215 (CCPA 1980).

### ***Response to Arguments***

With regards to applicants argument that in the film of Taguchi, the dye is in the aggregates, not in the binder, as previously noted by examiner, the binder polymer of Taguchi is a matrix and the aggregates are minute domains as shown in paragraphs 35, 43, and 132-139. The aggregates of Taguchi are dissolved and dispersed in a solvent as shown in paragraph 138 therefore the aggregates of the dichroic dye become a coating and thus Taguchi does teach this limitation. In addition, with regards to applicants argument that the aggregates described in paragraph 132-135 of Taguchi, is one of a substituent group of the dichromatic dye, Examiner has defined the matrix to be an area of the binder polymer including transparent, water soluble resin with iodine light absorbing material thus including at least one of the aggregates and has further defined the minute domains as an area where there is at least one aggregate. Therefore the film of Taguchi does teach all of the limitations of Claim 1.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aline D. McNaull whose telephone number is 571-272-8043. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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8/4/06

  
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